~~Patent Claims~~What is claimed is:

1. A method for post-processing raw magnetic resonance data, ~~having the following method features~~comprising:

filtering the raw magnetic resonance data ~~are filtered using a first filter (13),~~;

~~the filtered data are~~ Fourier transforming the filtered data;~~ed (27),~~

forming a second magnetic resonance signal from an ~~—~~absolute value of~~formation (29) for~~ the Fourier transformed data results~~ in a first magnetic resonance signal,~~;

~~the raw magnetic resonance data are~~ Fourier transform~~ed (27),~~ing the raw magnetic resonance data;

forming a second magnetic resonance signal from an absolute value~~ formation (29) for~~ of the Fourier transformed ~~instances of the~~ raw magnetic resonance data~~ results in a second magnetic resonance signal,~~; and

forming a post-processed magnetic resonance signal ~~(17) is formed by means of~~ from a weighted combination of the ~~two~~ first and second magnetic resonance signals.

2. The method as claimed in claim 1, wherein

~~characterized in that~~ the raw magnetic resonance data are filtered using a second filter, separate from a first filter used in first filtering the raw magnetic resonance data, ~~(13)~~ before the Fourier transformation ~~(27) in order to produce~~used in forming the second magnetic resonance signal.

3. The method as claimed in claim 1~~ or 2~~, wherein ~~characterized in that~~ the raw magnetic resonance data are filtered after ~~the~~ demodulation.

4. The method as claimed in ~~one of claims~~claim 1~~ to 3~~, wherein ~~characterized in that~~ the raw magnetic resonance data are obtained using a magnetic resonance spectroscopy unit.

5. The method as claimed in claim 1, wherein ~~as claimed in one of claims 1 to 4,~~ ~~characterized in that~~ the raw magnetic resonance data are obtained using a magnetic resonance tomography unit ~~(1)~~.

6. The method as claimed in ~~one of claims 1 to 5, characterized in that~~claim 1, wherein the filtering is done using ~~one of the filters is~~ a low pass filter.

7. The method as claimed in claim 6, ~~characterized in that~~wherein the low pass filter is a type of Hanning filter.

8. The method as claimed in ~~one of claims 1 to 7,~~

~~characterized in that~~claim 1, wherein the ~~one of the~~ filterings~~s~~ is done using ~~is~~ a high pass filter.

9. The method as claimed in claim 8, wherein ~~characterized in that~~ the high pass filter is a type of inverse Hanning filter.

10. The method as claimed in ~~one of claims 1 to 9, characterized in that~~ claim 1, wherein the raw magnetic resonance data are data for at least one of a one-dimensional ~~or~~ and multidimensional space ~~which is~~ to be examined.

11. The method as claimed in ~~one of claims 1 to 10, characterized in that~~claim 1, wherein the Fourier transformation maintains the dimensionality of the raw magnetic resonance data.

12. The method as claimed in ~~one of claims 1 to 11, characterized in that~~claim 1, wherein the weighted combination involves addition of the absolute values of the magnetic resonance signals.

13. The method as claimed in ~~one of claims 1 to 12, characterized in that~~ claim 1, wherein the two magnetic resonance signals are subjected to weighted combination such that the contribution of one of the magnetic resonance signals to the weighted combination is formed by multiplying this magnetic resonance signal by a weighting factor, with the weighting factor depending on the other of the magnetic resonance signals such that it is relatively greater when the absolute value

of this magnetic resonance signal is large and relatively less ~~than~~ when the absolute value is small.

14. The method as claimed in ~~one of claims 1 to 13, characterized in that~~claim 1, wherein, for the weighted combination, the contribution of one of the magnetic resonance signals has a nonlinear dependency on the absolute value of the other magnetic resonance signal~~, with the same nonlinear dependency being used, in particular, at least in one dimension of the raw magnetic resonance data.~~

15. The method as claimed in ~~one of claims 1 to 14, characterized in that~~ claim 1, wherein the weighted combination of the two magnetic resonance signals by two parameters λ and κ results in the post-processed magnetic resonance signal in the following manner:

$$C = A + \lambda \left(\frac{B}{A_{max}}\right)^{\kappa} B, \text{ where}$$

A is one of the magnetic resonance signals,
B is the other of the magnetic resonance signals,
A_{max} is the maximum of the magnetic resonance signal A, and
C is the post-processed magnetic resonance signal.

16. The method as claimed in ~~one of claims 1 to 15, characterized in that~~claim 15, wherein the parameter λ is in the range between 0 and 3.

17. The method as claimed in claim 15~~ or 16~~, wherein

~~characterized in that~~ the parameter κ is in the range between 0 and 3.

18. The method as claimed in ~~one of claims 1 to 17, characterized in that~~claim 1, wherein more than two magnetic resonance signals are obtained from the raw magnetic resonance data by ~~means of~~ filtering, ~~operations~~ and are subjected to weighted combination to form a post-processed magnetic resonance signal.

19. A magnetic resonance tomography unit ~~(1) which is~~ matched to a method for post-processing raw magnetic resonance data as claimed in ~~one of claims 1 to 18~~claim 1.

20. A magnetic resonance spectroscopy unit ~~which is~~ matched to a method for post-processing raw magnetic resonance data as claimed in ~~one of claims 1 to 18~~ claim 1.

21. The method as claimed in claim 2, wherein the raw magnetic resonance data are filtered after demodulation.

22. The method as claimed in claim 2, wherein the raw magnetic resonance data are obtained using a magnetic resonance spectroscopy unit.

23. The method as claimed in claim 2, wherein the raw magnetic resonance data are obtained using a magnetic resonance tomography unit.

24. The method as claimed in claim 3, wherein the raw magnetic resonance data are obtained using a magnetic resonance spectroscopy unit.

25. The method as claimed in claim 3, wherein the raw magnetic resonance data are obtained using a magnetic resonance tomography unit.

26. The method as claimed in claim 2, wherein at least one of the filters is a low pass filter.

27. The method as claimed in claim 26, wherein the low pass filter is a type of Hanning filter.

28. The method as claimed in claim 2, wherein at least one of the filters is a high pass filter.

29. The method as claimed in claim 28, wherein the high pass filter is a type of inverse Hanning filter.

30. The method as claimed in claim 2, wherein the raw magnetic resonance data are data for at least one of a one-dimensional and multidimensional space to be examined.

31. The method as claimed in claim 2, wherein the two magnetic resonance signals are subjected to weighted combination such that the contribution of one of the magnetic resonance signals to the weighted combination is formed by multiplying this magnetic resonance signal by a weighting factor, with the weighting factor depending on the other of the magnetic resonance

signals such that it is relatively greater when the absolute value of this magnetic resonance signal is large and relatively less when the absolute value is small.

32. The method as claimed in claim 2, wherein, for the weighted combination, the contribution of one of the magnetic resonance signals has a nonlinear dependency on the absolute value of the other magnetic resonance signal.

33. The method as claimed in claim 31, wherein the same nonlinear dependency is used at least in one dimension of the raw magnetic resonance data.

34. The method as claimed in claim 13, wherein, for the weighted combination, the contribution of one of the magnetic resonance signals has a nonlinear dependency on the absolute value of the other magnetic resonance signal.

35. The method as claimed in claim 16, wherein the parameter κ is in the range between 0 and 3.

36. A magnetic resonance tomography unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 2.

37. A magnetic resonance spectroscopy unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 1.

38. A magnetic resonance tomography unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 13.

39. A magnetic resonance spectroscopy unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 13.

40. A magnetic resonance tomography unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 18.

41. A magnetic resonance spectroscopy unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 18.

42. A magnetic resonance tomography unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 34.

43. A magnetic resonance spectroscopy unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 34.

44. The method as claimed in claim 2, wherein the first filtering is done using a low pass filter and the second filtering is done using a high pass filter.

45. The method as claimed in claim 44, wherein the low pass filter is a type of Hanning filter and wherein the high pass filter is a type of inverse Hanning filter.

46. A magnetic resonance tomography unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 44.

47. A magnetic resonance spectroscopy unit matched to a method for post-processing raw magnetic resonance data as claimed in claim 45.